



CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

An ISO 9001:2008 Certified Company

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005



Job No.: CTCE/BBMP/W.No.12/KRIDL/WMM/Gradation/2014-15



02.02.2015

GRADATION FOR WMM MORTH TABLE-400-11

Client : Asst. Executive Engineer, Shettyhalli Sub-Division, BBMP, Bangalore.
Agency : Technical Manager (West), KRIDL, Bangalore.
Name of Work : Pot holes filling in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference : EE/DD/WO/179/2013-14 Dated: 20.12.2013

Date of Testing : 02.02.2015

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): 9960

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	345	345	3.5	96.5	95-100
22.4	2280	2625	26.4	73.6	60-80
11.2	1535	4160	41.8	58.2	40-60
4.75	2145	6305	63.3	36.7	25-40
2.36	1070	7375	74.0	26.0	15-30
0.600	1185	8560	85.9	14.1	8-22
0.075	915	9475	95.1	4.9	0-8

Note:

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23/14, 7th Cross, 3rd Stage,
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ನವಾಹಿತ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶೃಷ್ಠಿಪಟ್ಟಿ, ಬಸವೇಶ್ವರನಗರ, ದಾಸರಹಳ್ಳಿ, ವಲಯ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ. ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು

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02.02.2015

Aggregate Impact Value

IS: 2386 Part IV

Client	Asst. Executive Engineer, Shettyhalli Sub-Division, BBMP, Bangalore.
Agency	Technical Manager (West), KRIDL, Bangalore.
Name of the Work	Pot holes filling in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	EE/DD/WO/179/2013-14 Dated: 20.12.2013
Source / Location	WMM Plant
Type of Mix	Wet Mix macadam
Date of Testing	02.02.2015

Sl No.	Details	Trial No.		Average
		1	2	
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	391	388	22.08
2	Weight of aggregate passing 2.36 mm sieve after the test = W_2 g	87	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	304	303	
4	Aggregate Impact value = percent fines	22.25	21.91	
	$100 * (W_2/W_1) \%$			

Comments:

→ Maximum allowable Aggregate Impact value for Wet mix Macadam is 30%

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AE-12
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಶೃಂಗೇರಿ ಉಪನಿರ್ದೇಶಕರು, ದಾಸರ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ
ಎಸ್.ಎಂ ರಸ್ತೆ, ರವೀಂದ್ರನಗರ, ಬೆಂಗಳೂರು.



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: 02.02.2015

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

Client	: Asst. Executive Engineer, Shettyhalli Sub-Division, BBMP, Bangalore.
Agency	: Technical Manager (West), KRIDL, Bangalore.
Name of Work	: Pot holes filling in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
Reference	: EE/DD/WO/179/2013-14 Dated: 20.12.2013
Technical Reference	: IS 2386(Part 1) 1963 (RA 2007)
Type of Mix	: Wet Mix Macadam
Date of Testing	: 02.02.2015

Result : Flakiness Index = 11.58%

Elongation Index = 13.96%

Result : Combined Flakiness & Elongation index

25.54%

Comments:

Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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20.02.2015

BITUMEN CONTENT DETERMINATION OF BITUMINOUS CONCRETE MIX

As Per IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, Shettyhalli Sub-Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Pot holes filling in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
REFERENCE	EE/DD/WO/179/2013-14 Dated: 20.12.2013
SAMPLE I/D	Pot holes filling to roads in Ward No.12
DATE OF TESTING	20.02.2015

BITUMEN CONTENT DETERMINATION

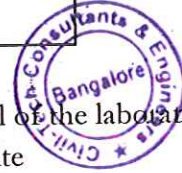
Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	474	473
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	26	27.00
7. Bitumen content in %	5.20	5.40
8. Average	5.30	

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20.02.2015

GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

AS PER IS2386 & IRC:SP:11-1984

CLIENT	Asst. Executive Engineer, Shettyhalli Sub-Division, BBMP, Bangalore.
AGENCY	Technical Manager (West), KRIDL, Bangalore.
NAME OF THE WORK	Pot holes filling in Ward No.12, in Shettyhalli Sub Division, BBMP, Bangalore.
REFERENCE	EE/DD/WO/179/2013-14 Dated: 20.12.2013
SAMPLE I/D	Pot holes filling to roads in Ward No.12
DATE OF TESTING	20.02.2015



GRADATION AFTER EXTRACTION

Sieve Size in mm	Trail 1				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	43.25	9.12	9.12	90.88	79-100
9.5	35.84	7.56	16.69	83.31	70-88
4.75	74.15	15.64	32.33	67.67	53-71
2.36	81.56	17.21	49.54	50.46	42-58
1.18	63.58	13.41	62.95	37.05	34-48
0.6	37.21	7.85	70.80	29.20	26-38
0.3	33.28	7.02	77.82	22.18	18-28
0.15	27.85	5.88	83.70	16.30	12-20
0.075	41.63	8.78	92.48	7.52	4-10

Sieve Size in mm	Trail 2				Specified Limits as per MORTH specification table 500-18 (Grading-2)
	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	
19	0	0	0	100	100
13.2	46.58	9.85	9.85	90.15	79-100
9.5	36.57	7.73	17.58	82.42	70-88
4.75	72.14	15.25	32.83	67.17	53-71
2.36	65.25	13.79	46.63	53.37	42-58
1.18	72.53	15.33	61.96	38.04	34-48
0.6	44.58	9.42	71.38	28.62	26-38
0.3	36.23	7.66	79.04	20.96	18-28
0.15	27.58	5.83	84.88	15.12	12-20
0.075	41.52	8.78	93.65	6.35	4-10

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18-12
ಸಹಾಯಕ ಕಾರ್ಯದರ್ಶಿ
ಶ್ರೀಕೃಷ್ಣ
ಬಿ.ಎಂ. ರಸ್ತೆ, ರೋಡ್‌ನಗರ, ಬೆಂಗಳೂರು